Name: _____ Date: _____

Chair Role: _____ Class: _____

Measuring Speed

Pre-Lab Discussion

Perhaps you've heard about the race between the tortoise and the hare. The hare was a fast runner but kept taking breaks because it was so sure of winning. The tortoise could only walk but never took a break. The hare lost the race.

These two racers demonstrate the difference between speed at one particular instant and average speed. To find a person's speed, you need an accurate measurement of the distance he or she travels and how long it takes the person to cover the distance.

The formula to calculate speed is _____.

The formula used to calculate average speed is _____

_____.

If you calculated the average speed of a runner in a marathon, would the runner be moving at that speed at every point in the race? Give a reason for your answer.

_____

_____

_____

Problem: How can you find the average speed of a walker?

Possible Materials ***(per group)***

- tape measure or meter stick
- masking tape
- 3 stopwatches

Safety 

Don't get in the way of the people whose speed you are measuring. Don't create hazards in the walkway.

Procedure

1. Read through the entire lab now.
2. Your teacher will set up a course for a select 6 students to walk through.
3. Three students will have stop watches and will record the time observed when a student walks by.
4. A student will stand with a timer and write down times observed for each student.
5. After all 6 students have walked the course, students will share results and fill out table.

Course Length: _____

Subject	Subject's Name	Total Time	Average Speed
1			
2			
3			
4			
5			
6			

Analyze and Conclude

1. Did any of the pedestrians speed up while walking the course? How do you know?

_____

_____

_____

_____

2. Did any of the pedestrians slow down while walking the course? How do you know?

_____

_____

_____

_____

3. How accurate do you think the measured times are? Suggest a method that would allow you to get

more accurate results in this experiment.

_____

_____

_____

4. Would the results of your investigation have been different if you had timed vehicles on a street rather than people walking? Would it have been easier or more difficult to get accurate results? Give a reason for your answer.

_____

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